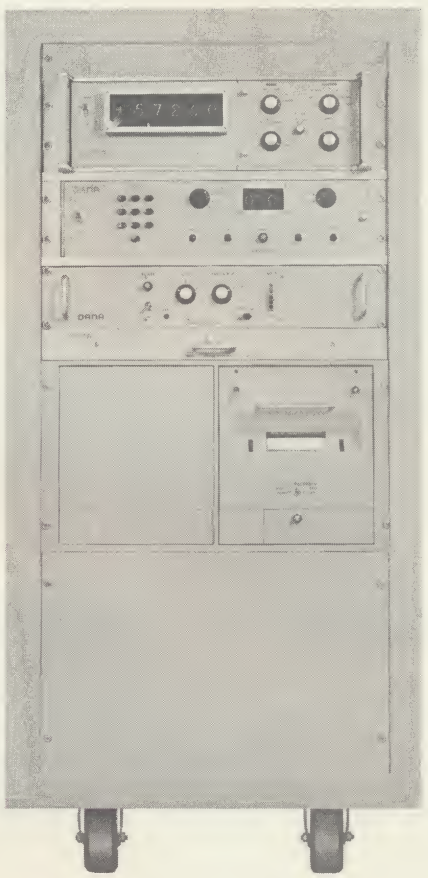
DANA

DANA MODEL 8001

DATA ACQUISITION SYSTEM

SYSTEM FEATURES

- Measures dc volts, ac volts, millivolts, ratios
- Full five-digit accuracy at 5 readings per second
- High system-CMR on all measurements
- Less than one microvolt thermal offset
- Fully programable, channel by channel
- High reliability, simple to service
- Modular buildup, from 5 to 30 channels



5 to 30-Channel Model 8001 System

The Dana Model 8001 Data Acquisition System measures a series of analog input signals in rapid succession and records the digitized results in printed form.

The Model 8001 System accommodates from 5 to 30 input channels. These are scanned, digitized, and recorded to a dc accuracy of 0.01% of reading at rates up to 5 per second.

The analog inputs may be an automatically programed mixture of dc volts, millivolts, ac volts, and dc/dc ratios with a fixed reference voltage. The output consists of a five-digit printed readout for each channel, plus symbols indicating range, polarity or function, and channel number. Nixie* displays provide parallel indication of all data for quick-look or single-channel observation.

Features of the Model 8001 System include, in addition to speed and accuracy, high common mode rejection on all measurement modes, extremely low (1-microvolt) thermal offset, and a capability for remotely programing all scanner functions.

High-speed preamplifiers and converters allow a maximum number of channels to be scanned in unit time. Built-in timing circuits adapt to the type of measurement being made on each channel, optimizing the overall scanning speed. Programing switches are provided for each channel to establish the type of measurement and the range.

Scanning modes include single-channel random access, channel-by-channel step, single-cycle scan, and continuous repetitive scan. Push-button front-panel controls allow for channel selection and start/stop commands. These may be optionally controlled by remote contact closures.

*Trademark

Individual printed-circuit relays are used for each input channel, simultaneously switching the signal, signal common, and guard connections. The relays are snap-on devices, readily maintained and replaced. Test units have been actuated over 2 million times without detectable wear on the printed-circuit contacts.

Virtually all circuits in the Model 8001 System are accessible through front-panel doors and sliding drawers. The complete system is packaged in a single rack-width chassis, mounted on casters.

SPECIFICATIONS

Typical Specifications	DC Voltage Channels	DC/DC Ratio Channels	AC Voltage Channels	Millivolt Channels
Measurement Range	0 - ±1000 v	0 - 100:1	0 - 500 v rms	0 - 1000 mv
Accuracy, % of reading	0.01%	0.003%	0.1%	0.02%
Scanning Rate	5/sec.	5/sec.	2/sec.	5/sec.
Common Mode Rejection dc to 60 cps	120 db	120 db	120 db	120 db
Input Impedance	(a)	> 10 megohms	1 megohm	10 megohms
Thermal Offset	<1 μv	<1 μv	<1 μv	<1 μv

[a] 10,000 megohms on 10-v range; 10 megohms on 100-v range and 1000-v ranges.

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Printed in USA

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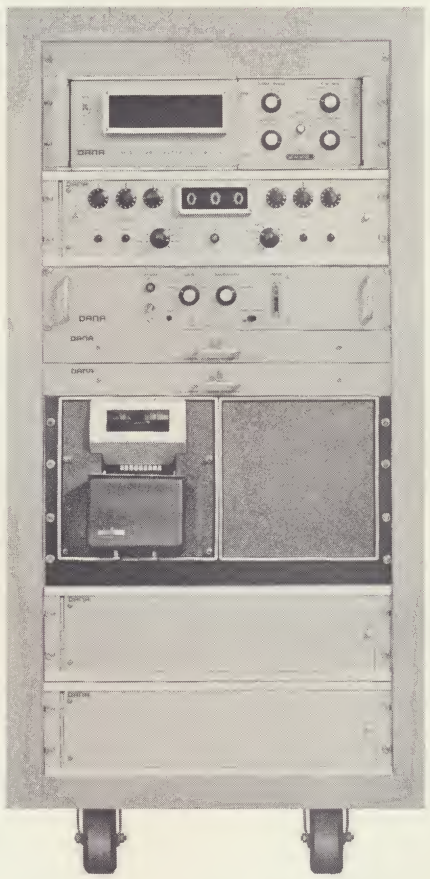
DANA MODEL 8020

DATA ACQUISITION SYSTEM

SYSTEM FEATURES

- Measures dc volts, ac volts, millivolts, ac/ac and dc/dc ratios
- Full five-digit accuracy at 10 readings per second
- High system-CMR on all measurements
- Less than one microvolt thermal offset
- Fully programable, channel by channel
- High reliability, simple to service
- Modular buildup, from 5 to 1000 channels



100-Channel Model 8020 System

The Dana Model 8020 Data Acquisition System measures a series of analog input signals in rapid succession and records the digitized results in printed form.

The Model 8020 System accommodates from 5 to 1000 channels, in 5-channel increments. These are scanned, digitized, and recorded to a dc accuracy of 0.01% of reading at rates up to 10 per second.

The analog inputs may be an automatically programed mixture of dc volts, millivolts, ac volts, and ac/ac, ac/dc, dc/ac, and dc/dc ratios with a fixed reference voltage. The output consists of a five-digit printed readout for each channel, plus symbols indicating range, polarity or function, and channel number. Nixie* displays provide parallel indication of all data for quick-look or single-channel observation.

Features of the Model 8020 System include, in addition to speed and accuracy, high common mode rejection on all measurement modes, extremely low (1-microvolt) thermal offset, and a capability for remotely programing all scanner functions.

High-speed preamplifiers and converters allow a maximum number of channels to be scanned in unit time. Built-in timing circuits adapt to the type of measurement being made on each channel, optimizing the overall scanning speed. Programing switches are provided for each channel to establish the type of measurement and the range.

Scanning modes include single-channel random access, channel-by-channel step, single-cycle

*Trademark

scan, and continuous repetitive scan. Front-panel decade switches allow for channel selection and the setting of upper and lower scan limits; push-button switches provide start, stop, and reset commands. These may be optionally controlled by remote contact closures.

Individual printed-circuit relays are used for each input channel, simultaneously switching the signal, signal common, and guard connections. The relays are snap-on devices, readily maintained and replaced. Test units have been actuated over 2 million times without detectable wear on the printed-circuit contacts.

Virtually all circuits in the Model 8020 System are accessible through front-panel doors and sliding drawers. The complete system is packaged in a single rack-width chassis, mounted on casters.

SPECIFICATIONS

Typical Specifications	DC Voltage Channels	AC Voltage Channels	DC/DC Ratio Channels	AC/AC Ratio Channels	Millivolt Channels	Resistance Channels
Measurement Range	0 - ±1000 v	0 - 500 v rms	0 - 100:1	0 - 1000:1	0 - 1000 mv	0 - 1000 K ohms
Accuracy, % of reading	0.01%	0.1%	0.003%	0.03%	0.02%	0.01%
Scanning Rate	10/sec.	2/sec.	10/sec.	2/sec.	10/sec.	10/sec.
Common Mode Rejection dc to 60 cps	120 db	120 db	120 db	120 db	120 db	120 db
Input Impedance	(a)	1 megohm	> 10 megohms	1 megohm	10 megohms	--
Thermal offset	<1 μv	<1 μv	<1 μv	<1 μv	<1 μv	<1 μv

[a] 10,000 megohms on 10-v range; 10 megohms on 100-v range and 1000-v ranges.

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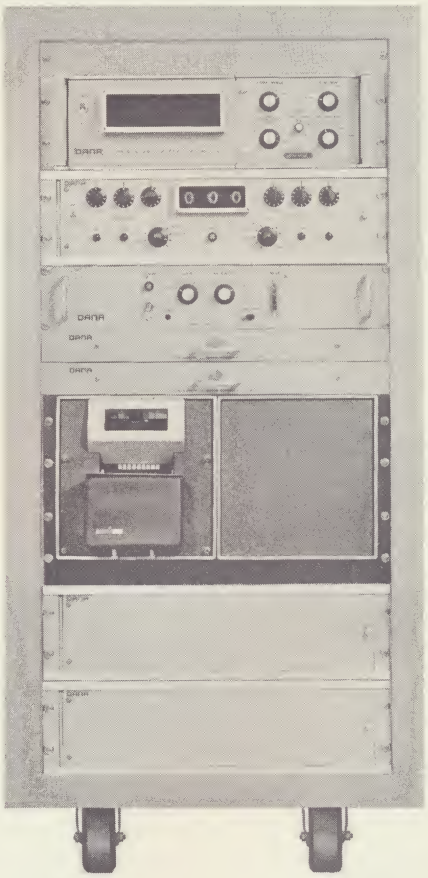
DANA MODEL 8040

DATA ACQUISITION SYSTEM

SYSTEM FEATURES

- Measures dc volts, ac volts, millivolts, ohms, ac/ac and dc/dc four-wire ratios
- Full five-digit accuracy at 10 readings per second
- High system-CMR on all measurements
- Less than one microvolt thermal offset
- Fully programable, channel by channel
- High reliability, simple to service
- Modular buildup, from 5 to 1000 channels



50-Channel Model 8040 System

The Dana Model 8040 Data Acquisition System measures a series of analog input signals in rapid succession and records the digitized results in printed form.

The Model 8040 System accommodates from 5 to 1000 channels, in 5-channel increments. These are scanned, digitized, and recorded to a dc accuracy of 0.01% of reading at rates up to 10 per second.

The analog inputs may be an automatically programed mixture of dc volts, millivolts, ac volts, and ac/ac, ac/dc, dc/ac, and dc/dc three-wire or four-wire ratios with a different reference voltage for each channel. The output consists of a five-digit printed readout for each channel, plus symbols indicating range, polarity or function, and channel number. Nixie* displays provide parallel indication of all data for quick-look or single-channel observation.

Features of the Model 8040 System include, in addition to speed and accuracy, high common mode rejection on all measurement modes, extremely low (1-microvolt) thermal offset, and a capability for remotely programing all scanner functions.

High-speed preamplifiers and converters allow a maximum number of channels to be scanned in unit time. Built-in timing circuits adapt to the type of measurement being made on each channel, optimizing the overall scanning speed. Programing switches are provided for each channel to establish the type of measurement and the range.

Scanning modes include single-channel random access, channel-by-channel step, single-cycle

*Trademark

scan, and continuous repetitive scan. Front-panel decade switches allow for channel selection and the setting of upper and lower scan limits; push-button switches provide start, stop, and reset commands. These may be optionally controlled by remote contact closures.

Individual printed-circuit relays are used for each input channel, simultaneously switching the signal, signal common, and guard connections. The relays are snap-on devices, readily maintained and replaced. Test units have been actuated over 2 million times without detectable wear on the printed-circuit contacts.

Virtually all circuits in the Model 8040 System are accessible through front-panel doors and sliding drawers. The complete system is packaged in a single rack-width chassis, mounted on casters.

SPECIFICATIONS

Typical Specifications	DC Voltage Channels	AC Voltage Channels	DC/DC Ratio Channels	AC/AC Ratio Channels	Millivolt Channels	Resistance Channels
Measurement Range	0 - ±1000 v	0 - 500 v rms	0 - 100:1	0 - 1000:1	0 - 1000 mv	0 - 1000 K ohms
Accuracy, % of reading	0.01%	0.1%	0.003%	0.03%	0.02%	0.01%
Scanning Rate	10/sec.	2/sec.	10/sec.	2/sec.	10/sec.	10/sec.
Common Mode Rejection dc to 60 cps	120 db	120 db	120 db	120 db	120 db	120 db
Input Impedance	(a)	1 megohm	> 10 megohms	1 megohm	10 megohms	--
Thermal offset	<1 μv	<1 μv	<1 μv	<1 μv	<1 μv	<1 μv

[a]10,000 megohms on 10-v range; 10 megohms on 100-v range and 1000-v ranges.

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